

SAFETY DATA SHEET

Issue Date 01-Jul-2025
Revision Number 4.07

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**Product identifier**

Product Name Copper(II) Nitrate Trihydrate
Other means of identification
Product Code(s) 032-04245, 038-04242, 030-04241

Recommended use of the chemical and restrictions on use

Recommended Use For research use only.
Uses advised against Seek expert judgment when using for purposes other than those recommended.

Details of the supplier of the safety data sheet**Manufacturer Address**

FUJIFILM Wako Pure Chemical Corporation
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Chuo-ku Osaka 540-8605, Japan
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Fax: +81-6-6201-5964

Distributor

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2. HAZARDS IDENTIFICATION**GHS classification****Classification of the substance or mixture****Oxidizing solids**

Category 2

Acute toxicity - Oral

Category 4

Skin corrosion/irritation

Category 1

Serious eye damage/eye irritation

Category 1

Reproductive Toxicity

Category 2

Specific target organ toxicity (single exposure)

Category 1, Category 3

Category 1 nervous system, blood system, liver, kidneys

Category 3 Respiratory irritation

Specific target organ toxicity (repeated exposure)

Category 1

Category 1 respiratory system

Acute aquatic toxicity

Category 1

Chronic aquatic toxicity

Category 1

Pictograms**Signal word**

Danger

Hazard statements

H272 - May intensify fire; oxidizer
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H302 - Harmful if swallowed
H361 - Suspected of damaging fertility or the unborn child
H335 - May cause respiratory irritation
H410 - Very toxic to aquatic life with long lasting effects

H400 - Very toxic to aquatic life

H370 - Causes damage to the following organs: nervous system, blood system, liver, kidneys

H372 - Causes damage to the following organs through prolonged or repeated exposure: respiratory system

Precautionary statements-(Prevention)

Obtain special instructions before use Do not handle until all safety precautions have been read and understood Use personal protective equipment as required Do not breathe dust/fume/gas/mist/vapors/spray Wash face, hands and any exposed skin thoroughly after handling Do not eat, drink or smoke when using this product Use only outdoors or in a well-ventilated area Avoid release to the environment Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking Keep/Store away from clothing/ combustible materials Take any precaution to avoid mixing with combustibles

Precautionary statements-(Response)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor/physician

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell Rinse mouth Do NOT induce vomiting Collect spillage

Precautionary statements-(Storage)

Store in a well-ventilated place. Keep container tightly closed Store locked up

Precautionary statements-(Disposal)

Dispose of contents/container to an approved waste disposal plant

Others

Other hazards Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Substance

Formula $\text{Cu}(\text{NO}_3)_2 \cdot 3\text{H}_2\text{O}$

Chemical Name	Molecular weight	CAS RN	Weight-%
Copper(II) nitrate trihydrate	241.60	10031-43-3	99.0-104.0

Impurities and/or Additives: Not applicable

4. FIRST AID MEASURES**First aid measures**

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water.

Inhalation Remove to fresh air.

Ingestion Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing media

Flood with water. Sand.

Unsuitable Extinguishing media Do not use straight streams.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data

Sensitivity to Mechanical Impact none.

Impact

Sensitivity to Static Discharge none.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions, protective equipment and emergency procedures Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods and material for containment and cleaning up Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical measures Flammable. Do not give shock. Avoid contact with reducing agents and combustible materials.

Protective measures Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage conditions Store away from sunlight in a cool (2-10 °C) well-ventilated dry place. Store locked up.

Packaging materials Polyethylene.

Incompatible materials Organic substance, Combustible materials. Reducing agent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits

Not applicable

Chemical Name	ACGIH	OSHA PEL	NIOSH IDLH
Copper(II) nitrate trihydrate 10031-43-3	TWA: 1 mg/m ³ Cu dust and mist	N/A	IDLH: 100 mg/m ³ Cu dust and mist TWA: 1 mg/m ³ Cu dust and mist

Personal protective equipment

Respiratory protection Dust mask (JIS T 8151)
Hand protection chemical protective gloves (JIS T 8116)
Eye protection protective eyeglasses or chemical safety goggles (JIS T 8147)
Skin and body protection Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form**Color**

blue

Appearance

crystals - crystalline powder

Odor

no data available

pH

no data available

Melting point/freezing point

114 °C

Boiling point, initial boiling point and boiling range

170 °C

Flash point

no data available

Evaporation rate:

no data available

Flammability (solid, gas):

no data available

Upper/lower flammability or explosive limits**Upper:**

no data available

Lower:

no data available

Vapour pressure

no data available

Vapour density

no data available

Specific Gravity / Relative density

2.05

Solubilities

water : Very soluble. Ethanol : free soluble .

n-Octanol/water partition coefficient:(log Pow)

no data available

Auto-ignition temperature:

no data available

Decomposition temperature:

no data available

Viscosity (coefficient of viscosity)

no data available

Dynamic viscosity

no data available

Particle characteristics

no data available

10. STABILITY AND REACTIVITY

Stability**Chemical stability**

This material is deliquescent.

Reactivity

no data available

Hazardous reactions

None under normal processing

Conditions to avoid

Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark, Shock, Moisture

Incompatible materials

Organic substance, Combustible materials, Reducing agent

Hazardous decomposition products

Nitrogen oxides (NOx), Metal oxides

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Copper(II) nitrate trihydrate	940 mg/kg (Rat)	N/A	N/A

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
Copper(II) nitrate trihydrate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
Copper(II) nitrate trihydrate	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Skin irritation/corrosion

Chemical Name	Skin corrosion/irritation source information
Copper(II) nitrate trihydrate	Based on the NITE GHS classification results.

Serious eye damage/ irritation

Chemical Name	Serious eye damage/irritation source information
Copper(II) nitrate trihydrate	Based on the NITE GHS classification results.

Respiratory or skin sensitization

Chemical Name	Respiratory or Skin sensitization source information
Copper(II) nitrate trihydrate	Based on the NITE GHS classification results.

Reproductive cell mutagenicity

Chemical Name	germ cell mutagenicity source information
Copper(II) nitrate trihydrate	Based on the NITE GHS classification results.

Carcinogenicity

Chemical Name	Carcinogenicity source information
Copper(II) nitrate trihydrate	Based on the NITE GHS classification results.

Reproductive toxicity

Chemical Name	Reproductive toxicity source information
Copper(II) nitrate trihydrate	Based on the NITE GHS classification results.

STOT-single exposure

Chemical Name	STOT -single exposure- source information
Copper(II) nitrate trihydrate	Based on the NITE GHS classification results.

STOT-repeated exposure

Chemical Name	STOT -repeated exposure- source information
Copper(II) nitrate trihydrate	Based on the NITE GHS classification results.

Aspiration hazard

Chemical Name	Aspiration Hazard source information
Copper(II) nitrate trihydrate	Based on the NITE GHS classification results.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Copper(II) nitrate trihydrate 10031-43-3	N/A	N/A	N/A	LC50 : Ceriodaphnia affinis 9.5 µg/L 48 h

Persistence and degradability

No information available

Bioaccumulative potential

No information available

Mobility

no data available

Mobility in soil

No information available

Other Data

No information available

13. DISPOSAL CONSIDERATIONS**Waste treatment methods****Disposal of wastes**

This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Precautionary including method of disposing contaminated packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION**DOT**

UN/ID No UN1477
Proper shipping name: Nitrates, inorganic, n.o.s. (Copper(II) nitrate trihydrate)
UN classification 5.1
Subsidiary hazard class
Packing group II
Marine pollutant Yes

IATA

UN/ID No UN1477
Proper shipping name: Nitrates, inorganic, n.o.s. (Copper(II) nitrate trihydrate)
UN classification 5.1
Subsidiary hazard class
Packing group II
Environmentally Hazardous Substance Yes

IMDG

UN/ID No UN1477
Proper shipping name: Nitrates, inorganic, n.o.s. (Copper(II) nitrate trihydrate)
UN classification 5.1
Subsidiary hazard class
Packing group II
Marine pollutant (Sea) Yes

15. REGULATORY INFORMATION**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS RN	Weight-%	SARA 313 - Threshold Values %
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Copper(II) nitrate trihydrate - 10031-43-3	10031-43-3	99.0-104.0	1.0
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SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Copper(II) nitrate trihydrate 10031-43-3	N/A	X	N/A	N/A

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations**California Proposition 65**

This product does not contain any chemicals regulated by Proposition 65

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Copper(II) nitrate trihydrate 10031-43-3	X	N/A	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

Issue Date 01-Jul-2025

Revision Note

No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet